Arctic Report

Post Lesson Plan 3

Age: Grades K-2

Setting: Classroom/Home assignment

Standards: Science: Environmental/Ecology 4.2.4.A(3), 4.3.4.A(1), 4.3.4C(3), 4.6.4.A(2-6,9,10), 4.6.4C, 4.7.4A(1,4), 4.7.4B(1,2), 4.8.4A(1), 4.8.4B(2), 4.8.4C(1,2), 4.8.4D(1,3)
Science and Technology: 3.3.4A(2), 3.7.4E(1,3), 3.5.4C(2)
Communication Arts: 1.1.3.C,D,E,G(1-4), 1.2.3.A(3), 1.4.3.B; 1.6.3.A(1), B(2,3,5), D(1-4), E(1-3), 1.8.3.A, B(1, 2, 4)

Objectives: Student will be able to:
- Identify animals specifically found in the Arctic region
- Name characteristic of the Arctic habitat
- Learn how animals in the Arctic adapt to the cold climate

Overview:

Students will take knowledge learned from the unit on the Arctic and apply it to complete a report on a topic of their choice. The information should be specific to the Arctic region. They will work through the writing process to include brainstorming, drafting, editing, and final draft.

Materials:
Blank pages for student writing
*Parent letter (page 33)
Markers/crayons/colored pencils
Pencils
Reference materials to include the Arctic and Arctic animals (books, magazine, etc.)

Procedure:

1. Recall with students the significance of the habitat and animals in the Arctic. Use chart paper or the chalkboard to list the information
2. Explain their assignment to them. They will be choosing a topic of interest specific the Arctic region and will be completing a report on it. Give them time to think. They may choose to write a report on a specific Arctic animal, the Arctic region in general, the ice of the Arctic, etc. Brainstorm with the students. Complete a list of topics for your records.
3. Students will work through an outline discussing what the report is about and some pertinent information regarding their topic. This will be conducted during class time. The outline can be in web, list, or other form.
4. The teacher will conduct one on one conferences to discuss their outline and make suggestions and comments.
5. The students will take this information home, in conjunction with the parent letter, and complete the rough draft of the project within the assigned time.
6. The teacher will once again meet with the student to conduct one-on-one conferences to discuss possible changes and to evaluate the progress of the project.
7. Students will again take this information home to complete the final draft.
8. Once the assigned time has expired, each student will share their report with the class. They will read their report and show illustrations collected.
9. Students will have an opportunity to ask questions from the Arctic expert.
10. Reports will be displayed in the hallway.

Assessment: Students will express their knowledge of the Arctic through the content material of their report. In addition, students will be evaluated on their understanding and utilization of the writing process. Students will be required to discuss and conduct a question and answer series on their report.

Dear Family,

As the cold weather is upon us, we have been studying the Arctic region. As part of a culminating activity, each student is required to write a report about the Arctic. Your child was instructed in class to choose an area of interest to him. An initial meeting with me was conducted and a brainstorming was conducted. Your child also created an outline to assist with his/her writing.

Your child has researched the topic during class. However, additional information may be needed. Any realm of media (book, magazine, video, internet) may be used to search for additional information. It is important that your child write the paper and include illustrations (printed, cut out or drawn) about the topic of choice.

If you have any questions or concerns, please contact me. The report if due a week from the date of the letter.

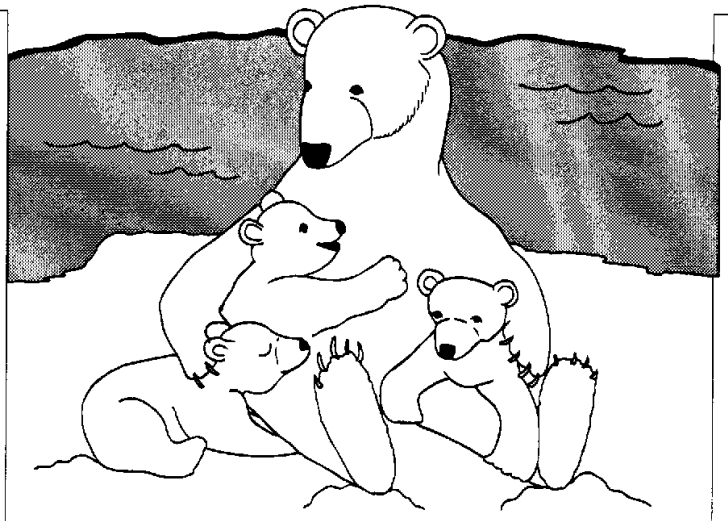
The reports will be presented to the class and displayed in the hallway for other individuals to explore.

Sincerely,

Polar Wordsearch

C C O L D A N T A R C T I C A I Z F O X R
S O U T H C A R I B O U E L I C H E N O O
M N T U S C O T T A M U N D S E N O R T O
O T H N K O C E A N D F W A L B I F G O K
S I G D U M I A K P O L A R B E A R L E E
S N C R A R C T I C G O L D I R S E A L R
P E O A I N U I T F S W R O R G E E C R Y
E N O R T H F L Y U L E U B D I G Z I E K
N T K A D E L I E R E R S K Y A G E E I R
G S R E S E A R C H D E M P E R O R R N I
U N H U N T P E R M A F R O S T D I L D L
I O F I S H P O T E M P E R A T U R E E L
N W H A L E M A G N E T I C P O L E A E P
A D A P T A T I O N S C I E N T I S T R X

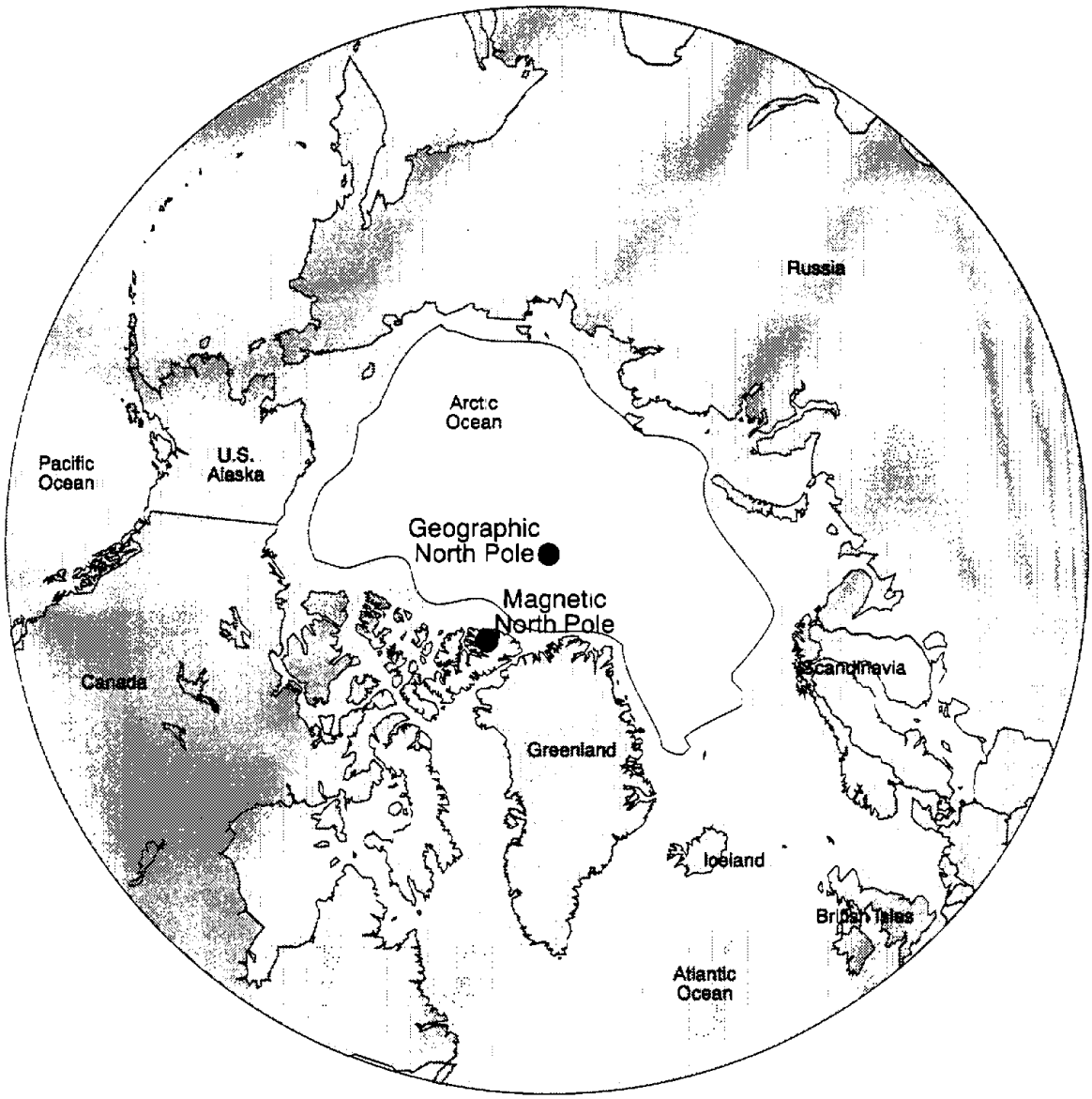
adaptation
Adelie
Amundsen
Antarctica
Arctic
Byrd
caribou
cold
continent
Cook
dog sled
egg
Emperor
freeze
fur
glacier
iceberg
Inuit
krill
Lapp
lichen
magnetic pole



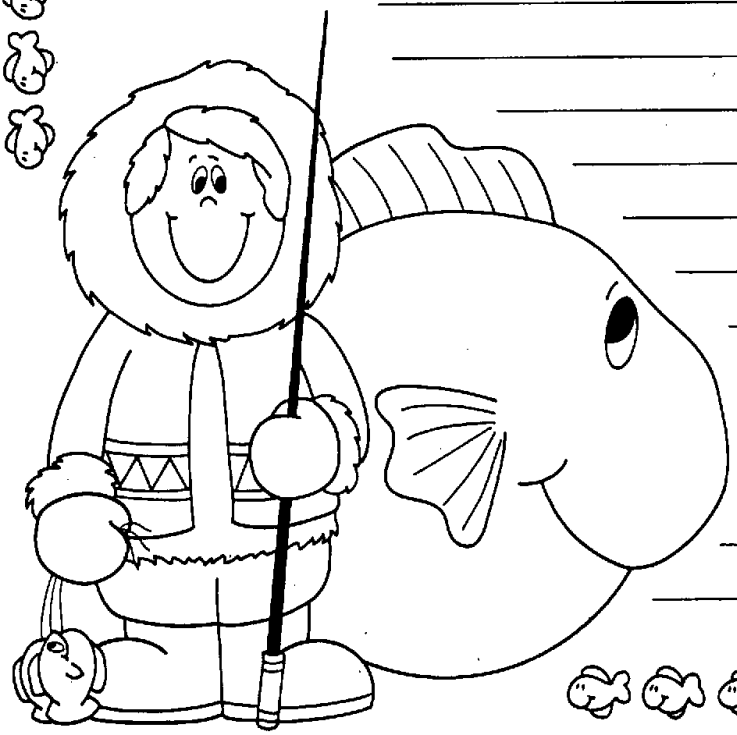
moss
north
ocean
penguin
permafrost
polar bear
reindeer
research
rookery
scientist
Scott
seal
skua
snow
south
temperature
tundra
umiak
walrus
whale
zero

Bonus:
Circle all of the people in your word list.
Underline all of the animals in your word list.

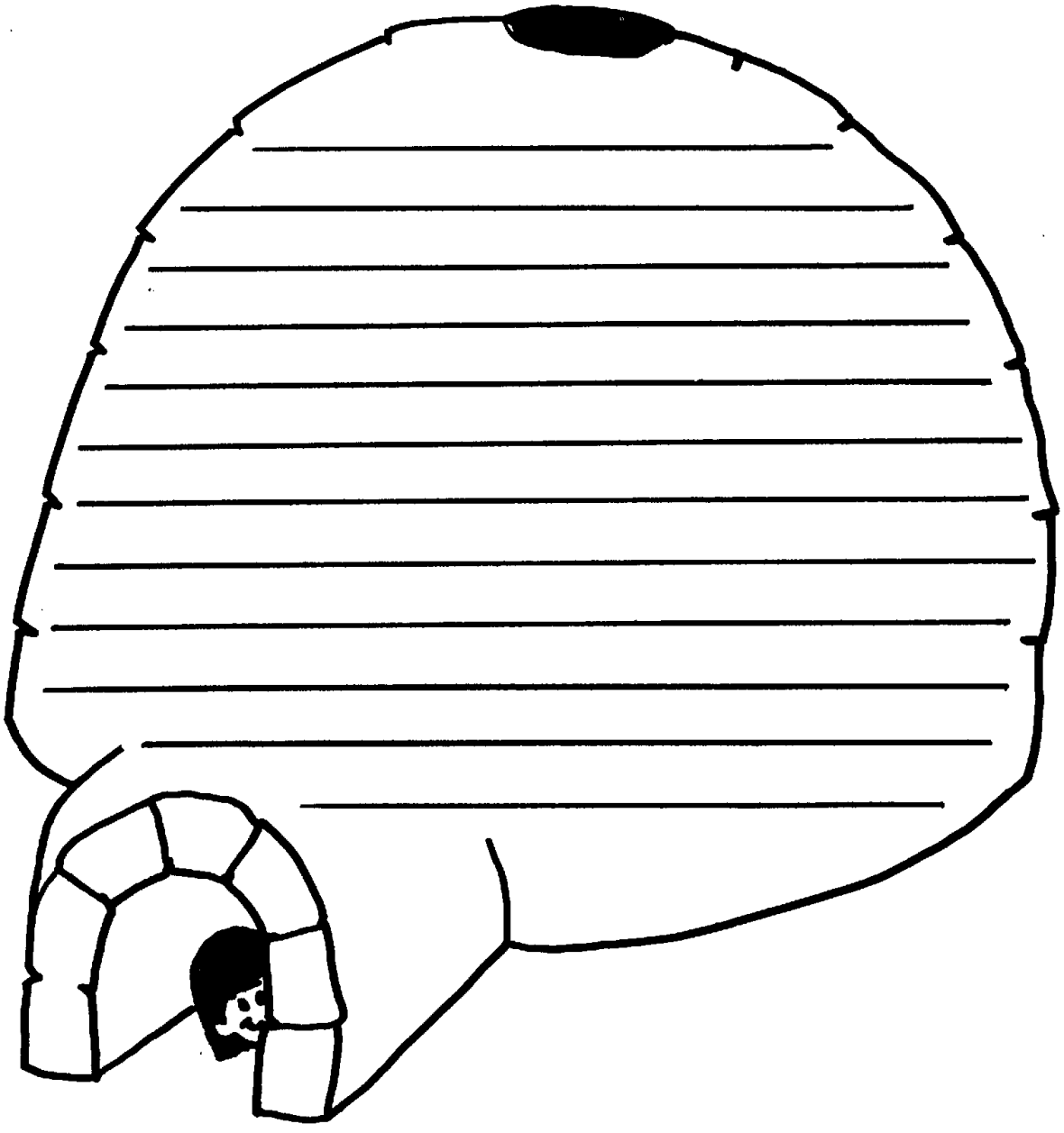
A Map of the Arctic



Name _____



If I lived in an igloo . . .



Writing Form

Students can dream up fun titles like "*Trembling Travels,*" "*On Top Of The World,*" or "*Playtime at the Poles,*" etc.

Polar Travel

Materials needed:
- 12" X 18" construction paper
- Copy of suitcase cover
- Writing form
- Felt pens
- Scissors and paste

Using the information generated by your students' research and brainstorming, have them write about what they would take with them if they went to the poles and describe how they would use the things they chose to take. To make the writing more fun, we've provided a reproducible cover and writing form for each of your students to make a book shaped like a suitcase.

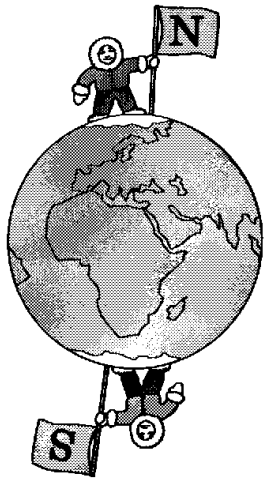
Book Cover

Cut out and paste to 12" x 18" folded construction paper.

Title

Author

Illustrator



Poles Apart

South Pole,
that's Antarctica.
The pole that's down below.

North Pole's
in the Arctic.
I wonder, should we go?

For either one
we'd better pack
a lot of heavy clothes.

If freezing were not
bad enough,
see how the cold wind blows.

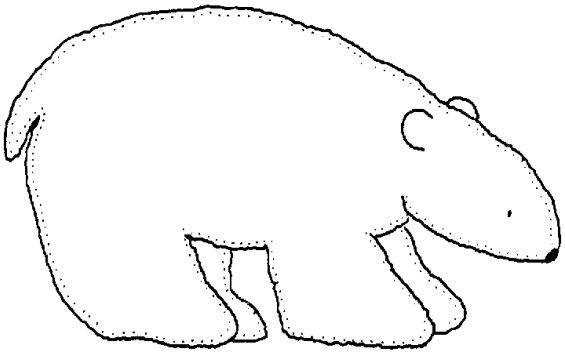
Bob DeWeese

Bear Song

Sung to: "My Bonnie Lies Over the Ocean"

C F C
The polar bear lives in Alaska,
D,
He never gets cold in a storm.
C F C
He swims in cold icy water,
F G C
His heavy coat keeps him warm.
F
Warm, warm, warm, warm,
G C
His heavy coat keeps him warm.
F
Warm, warm, warm, warm,
G C
His heavy coat keeps him warm.

C F C
The black bear's a very good climber,
D, G
She finds fruits and nuts to eat.
C F C
When wintertime snow begins falling,
F G C
She goes in a cave to sleep.
F
Sleep, sleep, sleep, sleep,
G C
She goes in a cave to sleep.
F
Sleep, sleep, sleep, sleep,
G C
She goes in a cave to sleep.



C F C
The grizzly bear's big and strong,
D, G
In fights he cannot be beat.
C F C
The mama bear loves her children,
F G C
And brings them fish to eat.
F
Eat, eat, eat, eat,
G C
She brings them fish to eat.
F
Eat, eat, eat, eat,
G C
She brings them fish to eat.

Marie Wheeler
Tacoma, WA

Time for Sleeping

Sung to: "Sing a Song of Sixpence"

C
Now it's time for sleeping,
G,
The bears go in their caves.

Keeping warm and cozy,
C
Time for lazy days.

When the snow is gone
G,
And the sun comes out to play,

The bears will wake up from their sleep
C
And then go on their way.

Terri Crosbie
Oldwick, NJ

Big and White

Sung to: "London Bridge"

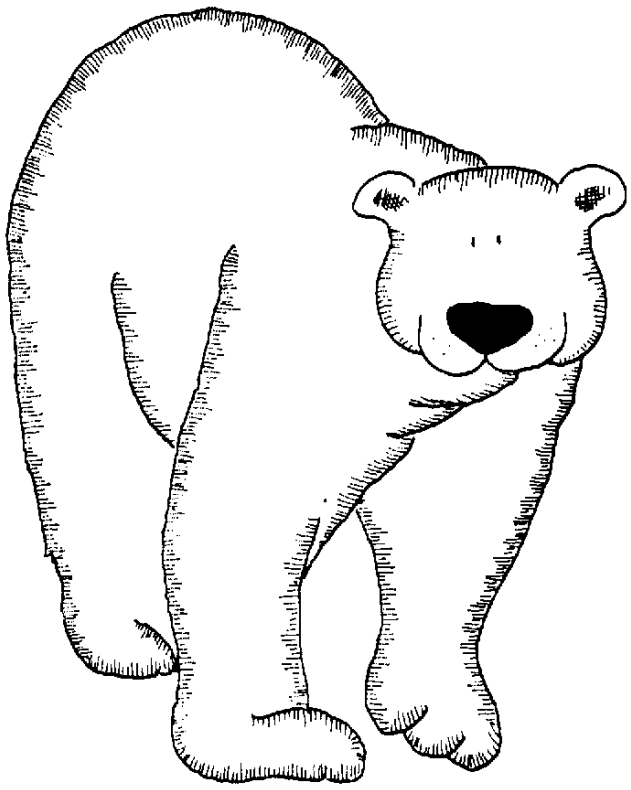
C
Polar bears are big and white,
G C
Big and white, big and white.

Polar bears are big and white,
G C
They live at the North Pole.

C
Polar bears love ice and snow,
G C
Ice and snow, ice and snow.

Polar bears love ice and snow,
G C
And that is all I know.

Carla C. Skjong
Tyler, MN



CARVINGS

HISTORICAL AID

During the long winter it is almost always dark. Inside the igloo, the Inuit families would work and play. Women sewed the skins together that would be used for the tent the family would live in during the summer.

The men enjoyed carving small sculptures out of soapstone. This soft stone is a variety of talc, called steatite. The usual sculptures were of the animals the men hunted such as bears, seals and walruses. The figures were used as good luck charms when hunting or were given to the shaman who used them in his ceremonies.

PROJECT

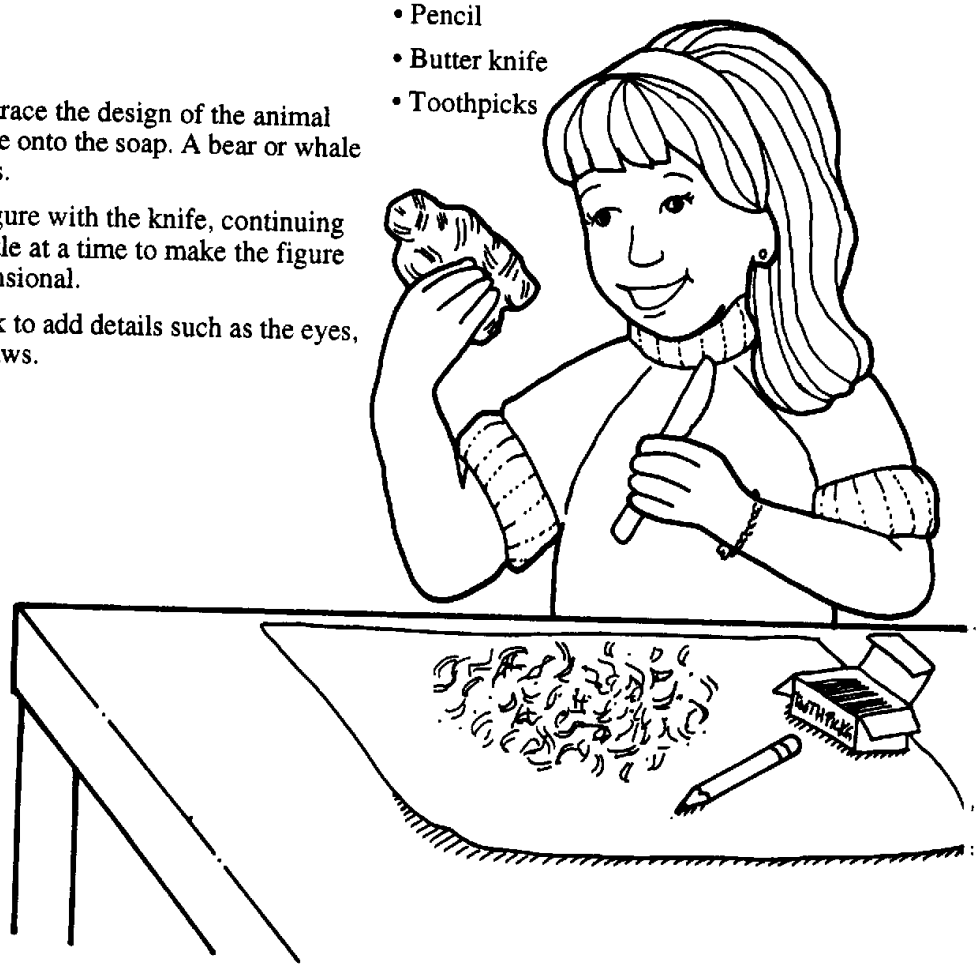
Design and carve an animal out of soap.

MATERIALS

- Large bar of soft soap, such as Dove
- Pencil
- Butter knife
- Toothpicks

DIRECTIONS

1. Using a pencil, trace the design of the animal you wish to carve onto the soap. A bear or whale are good choices.
2. Carve out the figure with the knife, continuing to cut away a little at a time to make the figure look three-dimensional.
3. Use the toothpick to add details such as the eyes, fur, teeth and claws.



UMIAKS

HISTORICAL AID

Walrus and whale hunting was often done from a boat called an *umiak.* A typical *umiak* was about five feet (1.6 m) wide and 30 feet (9 m) long, and made from a wooden or bone frame covered with skins. It had a flat bottom and high sides. This boat was very useful as it could carry heavy loads and yet was light enough to be carried by two men. Hunting crews in *umiaks* would surround a whale or walrus and attack it with harpoons. This was very dangerous as a wounded animal could could easily overturn the *umiaks* when it thrashed about in the water. A hunter who fell into the water did not often survive.

PROJECT

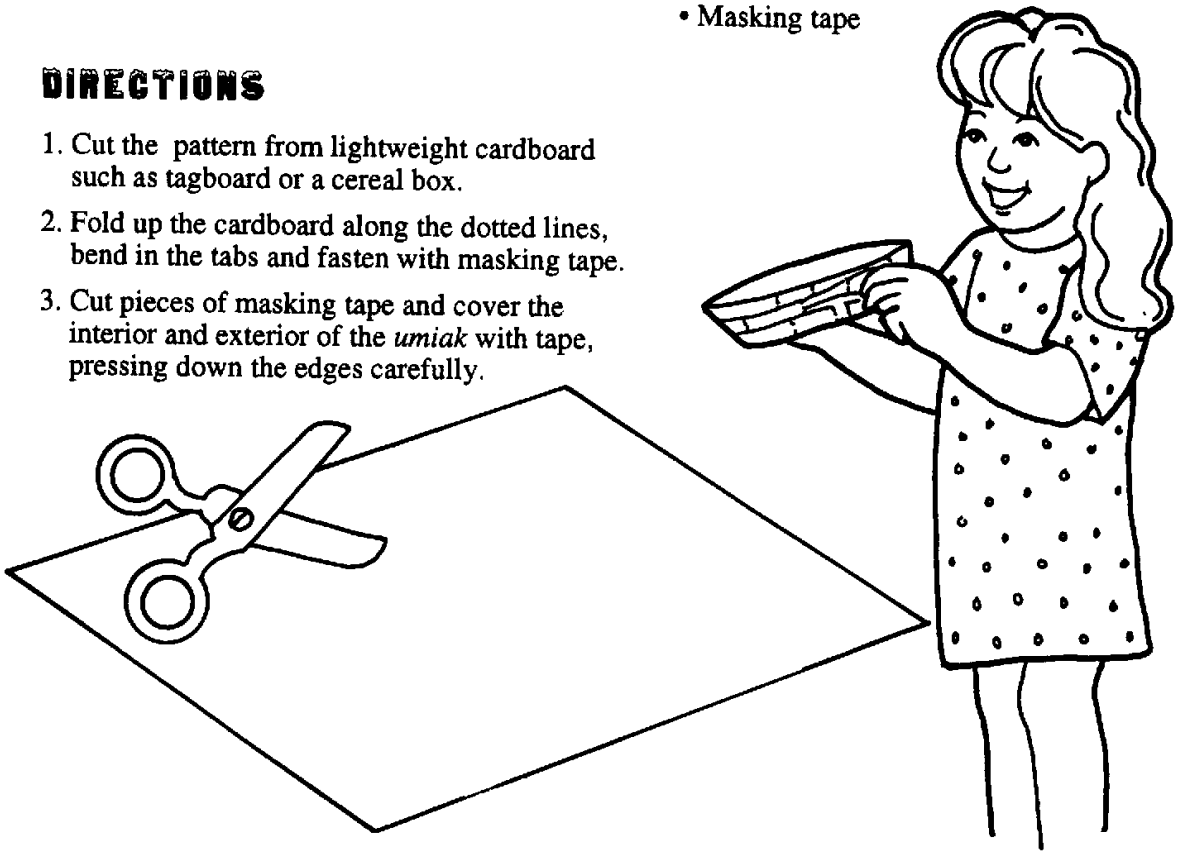
Learn about the construction of an *umiak* by building a model.

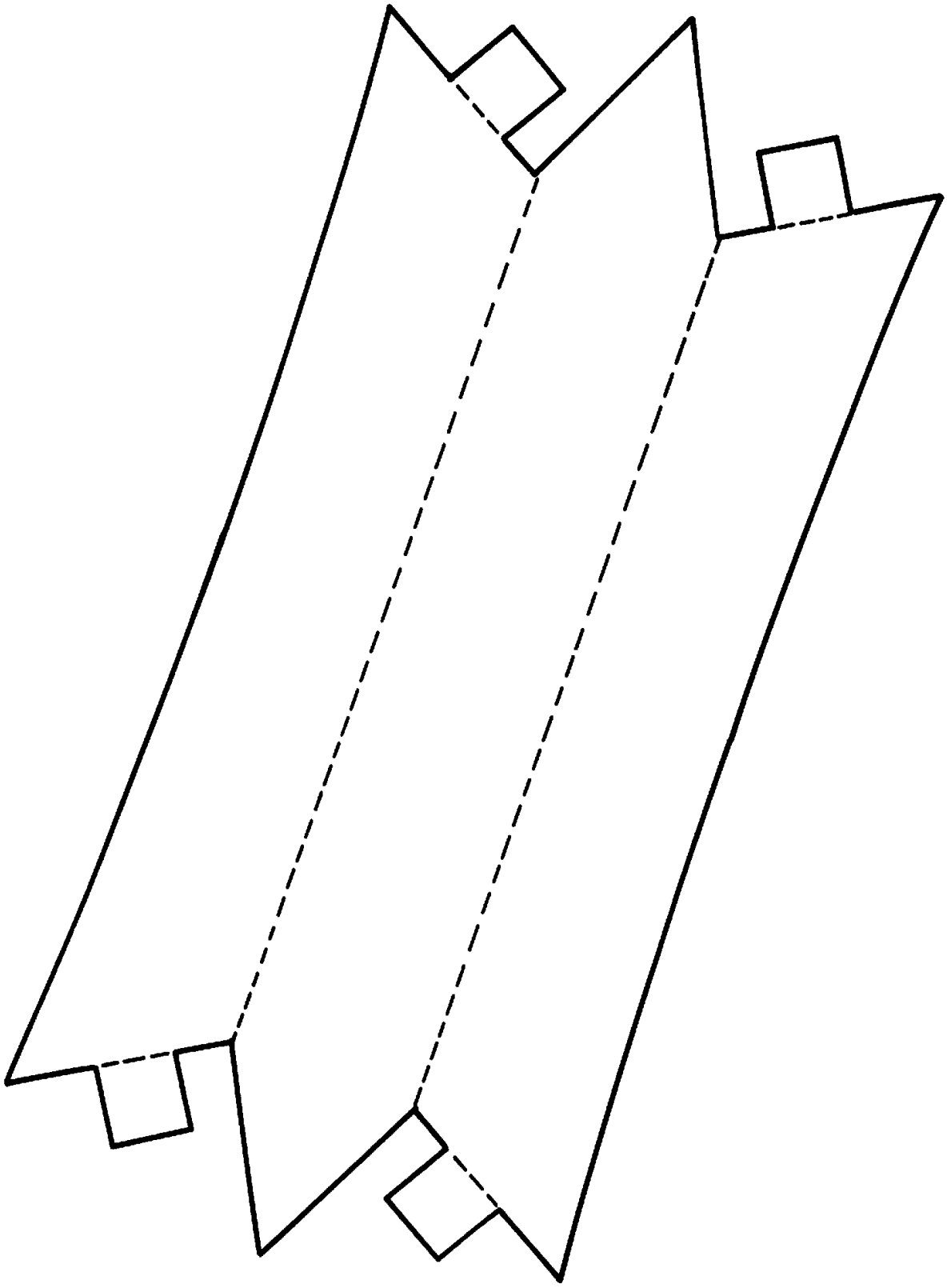
MATERIALS

- Pattern on facing page
- Lightweight cardboard
- Scissors
- Masking tape

DIRECTIONS

1. Cut the pattern from lightweight cardboard such as tagboard or a cereal box.
2. Fold up the cardboard along the dotted lines, bend in the tabs and fasten with masking tape.
3. Cut pieces of masking tape and cover the interior and exterior of the *umiak* with tape, pressing down the edges carefully.





IGLOO

HISTORICAL AID

The domed snow house built by the Inuit is known as an *inni* or igloo. This is the traditional house used as families moved to new hunting areas in the winter months. Blocks were cut out of the packed snow with a sword-like knife then set in a large circle. More rows were added with each closer to the center to form a dome. Thin ice often served as a window.

Loose snow was packed into the gaps between the blocks and a tunnel was built as an entry way either underground or on the side of the igloo away from the wind. It only takes an hour or two to build an igloo!

PROJECT

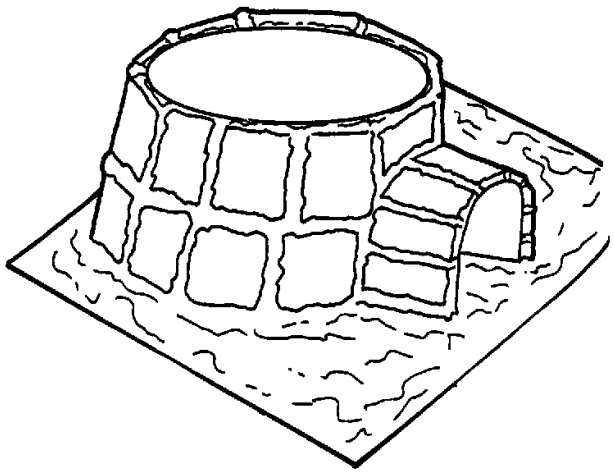
Build a model of an Inuit igloo.

MATERIALS

- Large sour cream container
- Piece of white tagboard, 6 x 6 inches (16 x 16 cm for base
- Scissors
- Tape
- Glue
- Premixed spackling compound
- Small bit of modeling clay
- Brown felt or construction paper
- Crayons

DIRECTIONS

1. Cut the meat tray into 1 x 1½-inch (2.5 x 4 cm) pieces. Carefully cut the bottom out of the sour cream carton. Cut the carton lid into a rectangle 4 x 1½ inches (11 x 4 cm). Turn the sour cream carton upside down and cut an arch in the side of the carton about 1½ inches (4 cm) high and 1 inch (2.5 cm) across.
2. Bend the rectangle cut from the lid in several places to form an arch. Tape in the arch cut in the side of the carton to form an entry tunnel.
4. Set the igloo on the base. Glue the foam squares to the carton in two rows. Cut eight long, narrow pieces (about 1½ inches/4 cm by x 1 inch/2.5 cm) for the entry. Glue in place. Let dry.
5. Using a fingertip or a popsicle stick, gently push spackle into the gaps around the foam. This dries quickly and makes the igloo sturdy. Spackle can be spread on the base to resemble drifting snow.
6. Furnish the igloo. Use the floor plan on the following page for ideas.



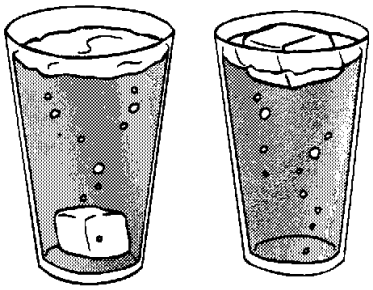
Only the Tip of the Iceberg

When children are asked to think about the North or South Poles, the first thing that probably comes to mind is ice and snow, and rightly so since both poles are often described as the Earth's icecaps. But it is surprising how little students actually know about this solid form of water.

Ice is one of the three states of matter in which water can be found (liquid and a vapor are the other two). Although it can become a liquid when it melts, or a vapor when it evaporates in sunlight, ice has some characteristics which are entirely its own and which your students can discover through observation and experimentation.

Here is an activity designed to raise questions about the behavior of ice. It can be used as either a teacher-directed demonstration or a small group activity.

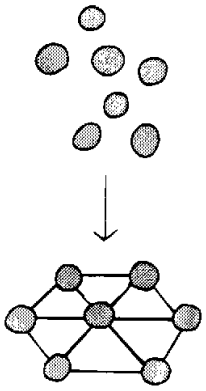
Why Do Ice Cubes (and Icebergs) Float?



Place a single ice cube in a clear glass and ask your students to predict what will happen when you fill the glass with water. Then fill the glass entirely (to the tip top) with water. How does the result compare with their predictions?

Ask your students to describe or write why they think ice, which is frozen water, floats in liquid water. Aren't solids usually heavier than liquids?

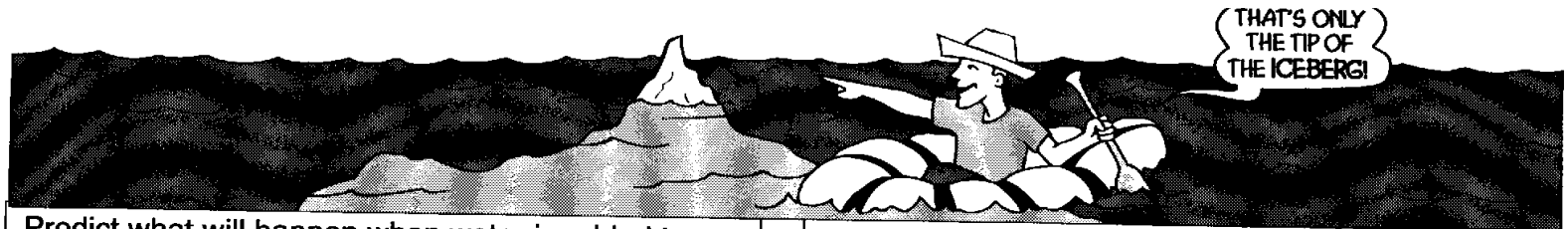
Then, ask them what they think will happen to the water in the glass as the ice melts. Set the experiment aside and do other ice activities until the ice cube in the water is half melted and compare the result with their predictions. Come back to this experiment when the ice is entirely melted and compare the results with their predictions.



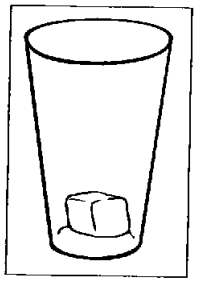
How it works: Water molecules rearrange themselves into crystals when they freeze. Not every liquid crystallizes when it freezes. This is something special about water. Because of this rearrangement, the volume of an ice cube expands to be one-eleventh greater than the volume of the water that made it. Since it now takes up more space with the same number of molecules, it is less dense than the surrounding water, so the ice cube floats. However, only one-eleventh of the ice appears above the water.

As the ice melts, it loses its increased volume. The water from the melted ice exactly fills the space taken up by the submerged part of the ice cube, so the water in the glass does not overflow.

Icebergs behave the same way, with most of their mass hidden below the surface of the water. That is why they are such a hazard to ocean navigation.



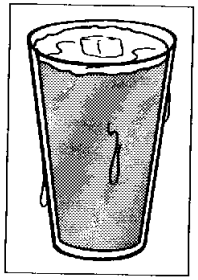
Predict what will happen when water is added to a glass with an ice cube in it.



What did happen: _____

Why: _____

Predict what will happen when the ice cube melts. Will the glass overflow?



What did happen: _____

Why: _____